

Gilliean Jofre (Note, was submitted on time and Turn It In score ok)

by Gilliean Jofre

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Proposal for Final Major Project

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Student Number: 2207830

Course: BA Games Design

Project title:

*The creation and implementation of visual filters in Virtual Reality Games
and how it affects a player's immersion.*

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Identification of the problem and breakdown of project idea

The lack of truly unique visuals in recent Virtual Reality Games

Virtual reality (VR) Games made in recent years have a common principle when it comes to their visuals, which in my opinion, does not allow for a truly unique and immersive experience in VR. This principle is that no matter the visual style, the final image created in-game that the player sees must be of high fidelity (in terms of the sharpness and clarity of



the visuals).

The above two in game screenshots show a quick example of the above-mentioned issue. While these games have a completely different art style, they lack that extra step into truly immersing the player in a unique gaming experience. In this case, I would suggest 'distorting' the visuals of a game by combining specific visual art styles as well as visual effects which would overlay the final image to give it a more immersive and unique feel.

Why would visual effects help with player immersion?

This idea comes from a recent trend in video games, specifically 'indie' horror games, where it is made to specifically emulate the visual fidelity and style of older, 'retro' games and play

Image 1: An in-game screenshot taken from
'The walking Dead: Saints and Sinners'



Image 3: An in-game screenshot taken from
'Crow Country'

with the player's feelings of nostalgia. In this case, this is done through a combination of lower-polygon models, again taking inspiration from how 'retro' games were made, and usually applying a filter that overlays the final image, giving that 'pixelated', lower fidelity looks to the game.

Crow Country [1] makes use of a pixel effect overlayed on top to induce the effect of being rendered at a lower resolution. Golden Light [2] on the other hand makes use of a filter on the textures of the assets itself to make it look like it is a retro game as well.

Why is this project worth it?

I would like to research and create a unique, visual experience that bridges the gap between Virtual Reality and the ever-growing indie games industry and its take on unique and experimental visuals.

Objectives of the Final Major Project and deliverables

The objective of this final major project is to 1) Create data sets from questionnaires about how certain visual effects affect players as well as players expectations of VR Games and 2)

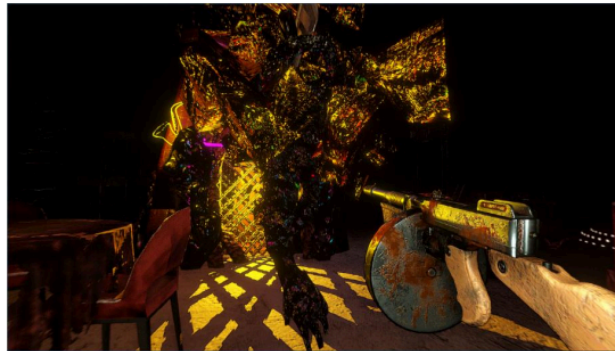


Image 4: An in-game screenshot taken from 'Golden Light'

Create a Testing platform, a written guide on the mechanics of the visual effects used and finally a finished 'demo' game experience.

1) Create data sets from questionnaires about how certain visual effects as well as player expectations.

This objective will be achieved by conducting three separate public queries and game tests over the entire period of the project.

After finalising the initial idea of the Final Major Project, a questionnaire would be given out to collect people's opinions on what player's expect of VR Games as well as their interest in more experimental VR Games. (Approximately conducted in December)

The second time will be a early-stage game test that will be used to gather information about how specific visual effects, when used in VR, affect the player and their immersion in the game. (Approximately conducted in February)

Lastly, a final test and interview will be conducted after the final game will be in a playable state. This will mainly be to fine tune the final version of the game as well as get player feedback. (Approximately conducted in February)

Ethical forms will need to be filled out for each of these tests as VR can cause certain health issues such as Nausea, Eye Strain and other issues that can be caused by flashing lights and harsh, moving graphics [3].

2) Create a Testing platform, a written guide on the mechanics of the visual effects used and finally a finished 'demo' game experience

The idea for this objective is to create a modular test platform in Unreal Engine 5 that be expanded upon and modified to be able to conduct a test on different visual effects.

Together with this, I'll create a set of accompanying documentation for the test platform that will document how to effectively use the set of visual effects for VR I will be developing for.

Lastly, the test platform will be adapted into a finalised 'demo' game experience. The game will showcase the use of a select number of visual effects in an hour long, immersive-sim, horror setting.

This game will also be playable on both Meta Quest and HTC VIVE Headsets, as both are the most used Virtual Reality Headsets on the market, this is possible using OpenXR [4]

Brief academic research and literature review

After doing a brief review of possible academic research papers to include into my project and to back up my proposal for my Final Major Project. These three papers touch on Virtual Reality and how it differs as an experience compared to normal Desktop based experiences [5], How usable an experience in Virtual Reality is compared to Desktop [6] and finally a paper which touches on Virtual Reality in the grand scheme of video games as a whole [7].

As for literature, I did a brief viewing of 'An Artistic Approach to Virtual Reality' [8] by Cyane Tornatzky and Brendan Kelley, which touches upon the history of artists who have worked with Virtual reality to create interactive pieces of art, which ties into the idea of creating unique experiences in VR as well as 'Virtual Society; The Metaverse and the New Frontiers of Human Experience' [9] by Herman Narula which touches on the advancements of Virtual Reality and how it being used to push the boundaries of digital experiences and how Virtual Reality is not just a passing trend but a developing space in the technology industry.

References

- [1] Crow Country. [Software], United Kingdom: SFB Games, 2024.
- [2] Golden Light. [Software], Russia: Mr. Pink, 2020.
- [3] S. LaMotte, "The very real health dangers of virtual reality," *CNN*, Dec. 13, 2017. <https://edition.cnn.com/2017/12/13/health/virtual-reality-vr-dangers-safety/index.html>
- [4] OpenXR, Version 1.1, [Software], Oregon: Khronos Group, 2024
- [5] F. Pallavicini and A. Pepe, "Comparing Player Experience in Video Games Played in Virtual Reality or on Desktop Displays," *Extended Abstracts of the Annual Symposium on Computer-Human Interaction in Play Companion Extended Abstracts - CHI PLAY '19 Extended Abstracts*, 2019, doi: <https://doi.org/10.1145/3341215.3355736>.
- [6] F. Pallavicini, A. Pepe, and M. E. Minissi, "Gaming in Virtual Reality: What Changes in Terms of Usability, Emotional Response and Sense of Presence Compared to Non-Immersive Video Games?," *Simulation & Gaming*, vol. 50, no. 2, pp. 136–159, Mar. 2019, doi: <https://doi.org/10.1177/1046878119831420>.
- [7] C. J. Ferguson *et al.*, "Video games, frustration, violence, and virtual reality: Two studies," *British Journal of Social Psychology*, vol. 61, no. 1, Jun. 2021, doi: <https://doi.org/10.1111/bjso.12471>.
- [8] Cyane Tornatzky and B. Kelley, *An Artistic Approach to Virtual Reality*. CRC Press, 2023.
- [9] H. Narula, *Virtual society*.

Bibliography

Crow Country. [Software], United Kingdom: SFB Games, 2024.

Golden Light. [Software], Russia: Mr. Pink, 2020.

S. LaMotte, "The very real health dangers of virtual reality," *CNN*, Dec. 13, 2017.
<https://edition.cnn.com/2017/12/13/health/virtual-reality-vr-dangers-safety/index.html>

OpenXR, Version 1.1, [Software], Oregon: Khronos Group, 2024

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<https://doi.org/10.1145/3341215.3355736>.

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<https://doi.org/10.1111/bjso.12471>.

Cyane Tornatzky and B. Kelley, *An Artistic Approach to Virtual Reality*. CRC Press, 2023.

H. Narula, *Virtual society*.

Images taken from:

Image 1: S. Hayden, "'The Walking Dead: Saints & Sinners' Was PSVR's Top Downloaded Game in May," *Road to VR*, Jun. 11, 2020.
<https://www.roadtovr.com/walking-dead-saints-sinners-psvr-top-may/> (accessed Oct. 21, 2024).

Image 2: S. Hayden, "'Superhot VR' Has Now Generated More Revenue Than The Original PC Game," *Road to VR*, Apr. 15, 2019. <https://www.roadtovr.com/superhot-vr-outsells-superhot-pc/> (accessed Oct. 21, 2024).

Image 3: Crow Country. [Software], United Kingdom: SFB Games, 2024.

Image 4: Golden Light. [Software], Russia: Mr. Pink, 2020.

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GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

73/100

BA GAMES – PROJECT PROPOSAL – ACCA6020
INDEPENDENT PROJECT (5%)

Student Gilliean Jofre
Mark: 73%

Intro / A&O (500 words)		
Project title; Identification of a specific problem to be investigated; Well-defined aims and SMART objectives; Explaining why this project is worth doing; Discussion of what the project needs to do in order to be a success; Description any deliverables that will be produced at the end of the project	40	31
- Project title is interesting and clearly illustrates the aims of the work to be completed.		
- Clear explanation and identification of a		

specific issue to be investigated with SMART objectives woven into/embedded in narrative flow of document. - Value of project findings explained with potential impact on pushing boundaries of medium through practical project noted. - There is a clear breakdown of criteria for determining success in the project with deliverable of project explained and elaborated on.		
Background to the Project (500 words)		
Description of how the work to be done by in the project relates to the work identified in the literature review; Discussion of any ethical issues raised by the project Identifying what has already been done within the field; Topic familiarity; Brief literature review using appropriate sources – 6-8 journal papers and book chapters rather than just websites; Selection of relevant models & concepts - There is a clear framework of links between research to be conducted and proposed practical project, based on contemporary media.	40	30

-
There is a discussion given on ethical issues raised by the project. In relation to potential testers with motion sickness and/or epilepsy; is there a plan to exclude them from the testing process? While this may seem like a common sense concept, it is still valuable to mention in the context of the project as reader will not assume.

-
Should an issue arise during the testing phase (whether for any issues mentioned prior – e.g. motion sickness, epilepsy etc. – is there a plan in place to account for this? Perhaps further ethical considerations could be given for a potential outcome.)

-
Data collection methods have been discussed and illustrated but raise some questions as to the specific type of information to be gathered and how it will be analysed in the context of the project. Is the data gathered going to be of a qualitative or quantitative nature? Some more specificity on questions to be asked would benefit document – are you going to be gauging response in terms of solely immersive impact or also physical impact (e.g. nausea experienced) etc.

- Good brief literature review of relevant sources with potential to explore further in main document.		
Document Presentation		
Correct spelling, grammar and punctuation; Flow of narrative/fluency; Coherence; Word processed ; Correct use of referencing with bibliography; Strict word limit - Correct spelling, grammar and punctuation used throughout – although in an academic document, remember to refer to yourself and your work in the third person. (e.g. 'I will be researching the impact of VR Games...' à 'Research will be conducted into the impact of VR Games...') - Good narrative flow throughout document with a clearly laid out plan for project. - Correct use of referencing with IEEE format adhered to throughout. Bibliography also included.	20	13
TOTAL	100	73

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